CLAIMS

WE CLAIM:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 3 – 5, and 7, the translated protein coding portion thereof, the mature protein coding portion thereof, the extracellular portion thereof, or the active domain thereof.

2. An isolated polynucleotide encoding a polypeptide with biological activity, said polynucleotide having greater than about 90% sequence identity with the polynucleotide of claim 1.

3. The polynucleotide of claim 1 which is a DNA sequence.

4. An isolated polynucleotide which comprises the complement of the polynucleotide of claim 1.

5. A vector comprising the polynucleotide of claim 1.

6. An expression vector comprising the polynucleotide of claim 1.

7. A host cell genetically engineered to express the polynucleotide of claim 1.

8. The host cell of claim 7 wherein the polynucleotide is in operative association with a regulatory sequence that controls expression of the polynucleotide in the host cell.

9. An isolated polypeptide comprising an amino acid sequence which is at least 80% identical to the amino acid sequence selected from the group consisting of SEQ

ID NO: 6, 9 – 11, and 12, the translated protein coding portion thereof, the mature protein coding portion thereof, the extracellular portion thereof, or the active domain thereof.

10. A composition comprising the polypeptide of claim 9 and a carrier.

11. A polypeptide, having IGFBP-like activity, comprising at least thirty consecutive amino acids from the polypeptide sequences selected from the group consisting of SEQ ID NO: 6, 9 – 11, and 12.

12. The polypeptide of claim 11, comprising at least twenty four consecutive amino acids from the polypeptide sequences selected from the group consisting of SEQ ID NO: 6, 9 – 11, and 12.

13. A polynucleotide encoding a polypeptide according to claim 11.

14. A polynucleotide encoding a polypeptide according to claim 12.

15. A polynucleotide encoding a polypeptide according to claim 9.

16. An antibody specific for the polypeptide of claim 9.

17. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide of claim 1 for a period sufficient to form the complex; and

b) detecting the complex, so that if a complex is detected, the polynucleotide of claim 1 is detected.

18. A method for detecting the polynucleotide of claim 1 in a sample, comprising:

a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to the polynucleotide of claim 1 under such conditions;

b) amplifying a product comprising at least a portion of the polynucleotide of claim 1; and

c) detecting said product and thereby the polynucleotide of claim 1 in the sample.

19. The method of claim 18, wherein the polynucleotide comprises an RNA molecule and the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.

20. A method for detecting the polypeptide of claim 9 in a sample, comprising:

a) contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex; and

b) detecting formation of the complex, so that if a complex formation is detected, the polypeptide of claim 9 is detected.

21. A method for identifying a compound that binds to the polypeptide of claim 9, comprising:

a) contacting the compound with the polypeptide of claim 9 under conditions and for a time sufficient to form a polypeptide/compound complex; and

b) detecting the complex, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 9 is identified.

22. A method for identifying a compound that binds to the polypeptide of claim 9, comprising:

a) contacting the compound with the polypeptide of claim 9, in a cell, for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and

b) detecting the complex by detecting reporter gene sequence expression, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 9 is identified.

23. A method of producing an IGFBP-like polypeptide, comprising,

a) culturing the host cell of claim 7 under conditions sufficient to express the polypeptide in said cell; and

b) isolating the polypeptide from the cell culture or cells of step (a).

24. A kit comprising the polypeptide of claim 9.

25. A nucleic acid array comprising the polynucleotide of claim 1 or a unique segment of the polynucleotide of claim 1 attached to a surface.

26. The array of claim 25, wherein the array detects full-matches to the polynucleotide or a unique segment of the polynucleotide of claim 1.

27. The array of claim 25, wherein the array detects mismatches to the polynucleotide or a unique segment of the polynucleotide of claim 1.

28. A method of treatment of a subject in need of enhanced activity or expression of IGFBP-like polypeptide of claim 9 comprising administering to the subject a composition selected from the group consisting of:

(a) a therapeutic amount of a agonist of said polypeptide;

(b) a therapeutic amount of the polypeptide; and

(c) a therapeutic amount of a polynucleotide encoding the polypeptide in a form and under conditions such that the polypeptide is produced,

and a pharmaceutically acceptable carrier.

29. A method of treatment of a subject having need to inhibit activity or expression of IGFBP-7-HY1 (IGFBP-like) polypeptide of claim 9 comprising administering to the subject a composition selected from the group consisting of:

(a) a therapeutic amount of an antagonist to said polypeptide;

(b) a therapeutic amount of a polynucleotide that inhibits the expression of the nucleotide sequence encoding said polypeptide; and

(c) a therapeutic amount of a polypeptide that competes with the IGFBP-like polypeptide for its ligand

and a pharmaceutically acceptable carrier.

30. A method of suppressing the growth of a cancer cell, comprising the step of administering a composition to said cells in an amount effective to suppress the growth of said cancer cell, wherein said composition comprises a recombinant vector comprising a nucleic acid encoding SEQ ID NO:6.

31. A method of suppressing the growth of a cancer cell, comprising the step of administering a composition to said cells in an amount effective to suppress the growth of said cancer cell, wherein said composition comprises a polypeptide of SEQ ID NO:6.

32. A method of suppressing the growth of a tumor, comprising the step of administering a composition to patients bearing tumors in an amount effective to suppress the growth of said tumor, wherein said composition comprises a recombinant vector comprising a nucleic acid encoding SEQ ID NO:6.

33. A method of suppressing the growth of a tumor, comprising the step of administering a composition to patients bearing tumors in an amount effective to suppress the growth of said tumor, wherein said composition comprises a polypeptide of SEQ ID NO:6.

34. The method of claim 29, wherein the composition comprises a recombinant vector comprising a nucleic acid of SEQ ID NO: 5.

35. A composition comprising a nucleic acid encoding SEQ ID NO: 6, within a recombinant vector.

36. The method according to claims 29, 30, 31, 32 or 33, wherein said cancer cell is selected from the group consisting of stomach cancer cells, colon cancer cells, renal cancer cells, thyroid cancer cells, uterine cancer cells, ovarian cancer cells, testicular cancer cells, and prostate cancer cells.

37. The method according to claims 34 or 35, wherein said composition is administered in a sterile preparation together with a pharmaceutically acceptable carrier therefore.

38. A method of diagnosing cancer comprising the steps of :
(a) measuring the expression level of a IGGBP-HY1 polypeptide comprising SEQ ID NO: 6 in a cell; and
(b) comparing said expression level to a standard level indicative of cancer.

39. A method of diagnosing cancer comprising the steps of :
(a) measuring the expression level of a IGFBP-HY1 polypeptide comprising SEQ ID NO: 6 in a cell; and
(b) comparing said expression levels in normal tissue.

38. The method of claim 36 or 37 wherein the expression level is measured by polymerase chain reaction.